

Doc Code:

PTO/SB/01 (10-05)

Approved for use through 07/31/2008. OMB 0651-0032

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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<b>DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)</b>		Attorney Docket Number		
		First Named Inventor	Flora Tak Tak Ng, et al	
		<b>COMPLETE IF KNOWN</b>		
		Application Number	10/582,333	
<input type="checkbox"/> Declaration Submitted with Initial Filing	OR	<input checked="" type="checkbox"/> Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16(e)))	Filing Date	June 9, 2006
			Art Unit	
			Examiner Name	

I hereby declare that:

Each inventor's residence, mailing address, and citizenship are as stated below next to their name.

I believe the inventor(s) named below to be the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**COMPOSITE CATALYST FOR THE SELECTIVE OLIGOMERIZATION OF LOWER ALKENES AND PRODUCTION OF HIGH OCTANE PRODUCTS**

(Title of the Invention)

the specification of which

☐ Is attached hereto

OR

☒ was filed on (MM/DD/YYYY) **December 10, 2004** as United States Application Number or PCT International Application Number **PCT/CA2004/002111** and was amended on (MM/DD/YYYY) **See Appendix A** (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365 (a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

[Page 1 of 2]

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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## DECLARATION — Utility or Design Patent Application

Direct all  
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address below

Name

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Country

Telephone

Email

### WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE OR FIRST INVENTOR:

☐ A petition has been filed for this unsigned inventor

Given Name (first and middle [if any])

Flora Tak Tak

Family Name or Surname

Ng

Inventor's Signature

Date

Sept 29, 2006

Residence: City

Waterloo

State

Ontario

Country

Canada

Citizenship

CANADA

Mailing Address

532 Sandbrooke Court

City

Waterloo

State

Ontario

ZIP

N2T 2H4

Country

Canada

☒ Additional inventors or a legal representative are being named on 1 supplemental sheet(s) PTO/SB/02A or 02LR are attached

Doc Code:

PTO/SB/02A (09-04)

Approved for use through 07/31/2006. OMB 0551-0032  
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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**DECLARATION****ADDITIONAL INVENTOR(S)**  
Supplemental SheetPage 3 of 3

Name of Additional Joint Inventor, if any:		<input type="checkbox"/> A petition has been filed for this unsigned inventor		
Given Name (first and middle (if any))		Family Name or Surname		
Garry Llewellyn		Rempel		
Inventor's Signature	<i>Garry L Rempel</i>		Date <i>Sept 29, 2006</i>	
Residence: City	Waterloo	State	Ontario	Citizenship CANADA
Mailing Address 532 Sandbrooke Court				
City	Waterloo	State	Ontario	Country Canada
Name of Additional Joint Inventor, if any:		<input type="checkbox"/> A petition has been filed for this unsigned inventor		
Given Name (first and middle (if any))		Family Name or Surname		
Bongani		Nkosi		
Inventor's Signature	<i>B. NKOSI</i>		Date <i>11/09/06</i>	
Residence: City	Vanderbijlpark	State		Citizenship South Africa
Mailing Address 17, Jacob Street				
City	Vanderbijlpark	State		Country South Africa
Name of Additional Joint Inventor, if any:		<input type="checkbox"/> A petition has been filed for this unsigned inventor		
Given Name (first and middle (if any))		Family Name or Surname		
Inventor's Signature			Date	
Residence: City		State		Citizenship
Mailing Address				
City		State		Country

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**APPENDIX A**

- (1) Amendment made under Article 34 of the PCT on June 6, 2005
- (2) Amendment made under Article 34 of the PCT on February 22, 2006

Doc Code:

PTO/SB/81 (01-06)

Approved for use through 12/31/2008. OMB 0651-0035

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**POWER OF ATTORNEY  
and  
CORRESPONDENCE ADDRESS  
INDICATION FORM**

Application Number	10/582,333
Filing Date	June 9, 2006
First Named Inventor	Flora Tak Tak Ng, et al
Title	Composite Catalyst for the Selective...
Art Unit	
Examiner Name	
Attorney Docket Number	

I hereby revoke all previous powers of attorney given in the above-identified application.

I hereby appoint:

☒ Practitioners associated with the Customer Number:

04743

OR

☐ Practitioner(s) named below:

Name	Registration Number

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please recognize or change the correspondence address for the above-identified application to:

☒ The address associated with the above-mentioned Customer Number:

OR

☐ The address associated with Customer Number:

OR

☐ Firm or Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the:

☐ Applicant/Inventor.☒ Assignee of record of the entire interest. See 37 CFR 3.71.  
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).**SIGNATURE of Applicant or Assignee of Record**

Signature

Date

Name

Telephone

Title and Company

Vice-President, University Research

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple

☒ \*Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending on the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Doc Code:

PTO/SB/96 (12-05)  
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### STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Flora Tak Tak Ng, et al

Application No./Patent No./Control No.: 10/582,333

Filed/Issue Date: June 9, 2006

Entitled: **COMPOSITE CATALYST FOR THE SELECTIVE OLIGOMERIZATION OF LOWER ALKENES  
AND PRODUCTION OF HIGH OCTANE PRODUCTS**

University of Waterloo

, a University

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest  
The extent (by percentage) of its ownership interest is \_\_\_\_\_ %

in the patent application/patent identified above by virtue of either:

- A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at \_\_\_\_\_, Frame \_\_\_\_\_, or a true copy of the original is attached.

OR

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
2. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
3. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

- ☐ Additional documents in the chain of title are listed on a supplemental sheet.

As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Alan George

Signature

Alan George

Vice-President, University Research

Printed or Typed Name

Sept. 26, 2006

Date

519-888-4889

Telephone number

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

## **ASSIGNMENT**

WHEREAS, we, Flora Tak Tak Ng, Garry Llewellyn Rempel and Bongani Nkosi, citizen(s) of Canada, Canada and South Africa, respectively, residing at 532 Sandbrooke Court, Waterloo, Ontario, N2T 2H4, Canada; 532 Sandbrooke Court, Waterloo, Ontario, N2T 2H4, Canada; and 17, Jacob Street, 1911 Vanderbijlpark, South Africa, respectively (hereinafter referred to as the "Assignors"), have made certain inventions and discoveries disclosed in United States Patent Application Serial No. 10/582,333 filed on June 9, 2006 entitled COMPOSITE CATALYST FOR THE SELECTIVE OLIGOMERIZATION OF LOWER ALKENES AND PRODUCTION OF HIGH OCTANE PRODUCTS (hereinafter referred to as the "Application") which was filed as a National Phase Entry of International PCT Patent Application Serial No. PCT/CA2004/002111 filed on December 10, 2004 claiming priority from United States Patent Application Serial No. 60/528,699 filed on December 12, 2003;

AND WHEREAS, University of Waterloo, whose full post office address is 200 University Avenue West, Needles Hall, Room 3005, Waterloo, Ontario, N2L 3G1, Canada (hereinafter referred to as the "Assignee"), is desirous of acquiring the entire right, title, and interest in and to said inventions and discoveries, and in and to the Applications inclusive of any and all priority rights derived therefrom for any and all countries in the world, and in and to any and all Letters Patent issuing in any and all countries in the world, to be granted for said inventions and discoveries based on said Applications or on patent applications filed in any country claiming priority from said Applications;

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00), and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we the Assignors, do hereby sell, assign, transfer, and set over unto the Assignee, its successors and assigns, our entire right, title, and interest in and to the inventions and discoveries disclosed in the Applications, and in and to the Applications and any continuations or divisions thereof and all priority rights derived therefrom, and in and to any and all patent applications and any continuations or divisions thereof filed in any country claiming priority from the Applications, and in and to all Letters Patent which may be granted upon the Applications or upon patent applications filed in any and all countries in the world including the United States of America, claiming priority from the Applications, and in and to any and all reissues, substitutions, or prolongations thereof; the same to be held and enjoyed by the Assignee for its own use and behoof, and for the use and behoof of its successors and assigns, to the full end of the term or terms for which said Letters Patent, or reissues, substitutions, or prolongations thereof may be granted, as fully and entirely as the same would have been held and enjoyed by us had this assignment and sale not been made;

AND we hereby agree that, upon request, and without further consideration, but at the expense of the Assignee, we will communicate to the Assignee or its representatives or nominees any facts known to us respecting said inventions and discoveries and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuing, and reissue applications, make all rightful oaths and generally aid the Assignee, its successors, assigns, and nominees to obtain and enforce proper patent protection for said inventions and discoveries in all countries, and we further agree to execute any and all further papers which may be necessary or desirable to vest or perfect the title of the Assignee, its successors and assigns, in and to said inventions and discoveries, and in and to any and all Letters Patent or reissues thereof which may be granted upon applications in any and all countries in the world.

AND we hereby authorize and request any official whose duty it is to issue patents to issue each and every Letters Patent to be granted upon the aforesaid Applications in any and all countries, and each and every reissue of said Letters Patent, to the Assignee, its successors and assigns, as the assignee of our entire right, title and interest therein, in accordance with this assignment.


THIS assignment made effective as of December 12, 2003.

SIGNED this 29 day of September, 2006.

  
WITNESS


  
FLORA TAK TAK NG

SIGNED this 29 day of September, 2006.

  
WITNESS

  
GARRY LLEWELLYN REMPEL

SIGNED this day of 11 September, 2006.

  
WITNESS  
SI RUBENS STA  
SASOLBURG

  
BONGANI NKOSI

ACKNOWLEDGED AND ACCEPTED at

, this

day of

, 2006.

UNIVERSITY OF WATERLOO

BY: ISL celt 2006 Oct 2

print name

Director IPUG

title